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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,226	04/14/2005	Hiroshi Ono	KOD174B.001APC	1793

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EXAMINER

KRUER, KEVIN R

ART UNIT	PAPER NUMBER
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1773

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/08/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/08/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcarter@kmob.com
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Office Action Summary

Application No.

10/509,226

Applicant(s)

ONO ET AL.

Examiner

Kevin R. Krueger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-6,9,11-14 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-6,9,11-14, and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections Overcome by Amendment

1. The rejection of claims 3-6, 9, and 11-22 under 35 U.S.C. 103(a) as being unpatentable over JP 2003-183453A (herein referred to as Toyoda) has been overcome by applicant's arguments. The reference does not teach a clear coat.
2. The rejection of claims 6, 3, 4, 9, 13, 16-20 and 22 under 35 U.S.C. 103(a) as being unpatentable over JP 55-039329A (herein referred to as Asahi) in view of JP 59174850A (Ricoh) has been overcome by applicant's amendment.
3. The rejection of claims 6, 3, 4, 9, 13, 16-20 and 22 under 35 U.S.C. 103(a) as unpatentable over JP51-04330A (herein referred to as Sumitomo) in view of JP 59174850A (Ricoh) has been overcome by amendment.
4. The rejection of claims 6, 3, 4, 9, 13, 16-20, and 22 under 35 U.S.C. 103(a) as being unpatentable over JP 55-040835(herein referred to as Asahi) in view of JP 59174850A (Ricoh) has been overcome by amendment.
5. The rejection of claims 5, 11, and 12 under 35 U.S.C. 103(a) as being unpatentable over JP 55-039329A (herein referred to as Asahi), JP 55-040835(herein referred to as Asahi'835), or JP51-04330A (herein referred to as Sumitomo) in view of JP 59174850A (Ricoh), as applied to claims above, and further in view of Kato et al (US 5,995,785) has been overcome by amendment.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-6, 9, 11-14, 16-20 and 22 under 35 U.S.C. 103(a) are rejected as being unpatentable over JP 55-039329A (herein referred to as Asahi) in view of JP 59174850A (Ricoh) and JP-10298295A (Mitsui).

Asahi teaches an ethylenic copolymer composed of ethylene and alpha-beta ethylenically unsaturated carboxylic acid wherein at least 10% of the acid is neutralized with a metal and/or ammonium ions. The copolymer comprise 90-97wt% ethylene, and 3-10mol% of unsaturated carboxylic acid and esters thereof (abstract). Said esters are understood to read on the claimed constituent c of claim 3. Said coating exhibits blocking resistance (herein understood to be synonymous with "slipping properties"). The "at least 10%" neutralization is understood to read on the claimed limitations of claim 4.

Asahi does not teach the claimed coating weight. However, Ricoh teaches an anti-blocking metal ionized ethylene acrylic acid copolymer (abstract). Said coating is applied to a paper substrate in amounts of 0.2-0.7g/sq. m. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the anti-blocking ethylene unsaturated carboxylic acid composition taught in Asahi to the paper taught therein in amounts of 0.2-0.7g/sq. m. The motivation for doing so would have been that Ricoh teaches such amounts are sufficient to achieve anti-blocking affects with ethylene unsaturated carboxylic acid coatings.

Asahi also does not teach the ionized ethylene acrylic acid polymer should have the claimed molecular weight. However, Mitsui teaches an ionized ethylene acrylic acid copolymer and teaches the melt flow (herein understood to be indicative of molecular weight) should be optimized in order to optimize the processability of the composition (0010). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the molecular weight of the polymer taught in Asahi in order to optimize its water processability.

With regards to claim 14, Asahi does not teach the desired pH of the composition. However, Mitsui teaches the pH should be greater than 7 to control the gelling of the composition (0012). Thus, it would have been obvious to the skilled artisan to make the polymer taught in Asahi in a solution having a pH greater than 7 in order to control the gelling of the composition.

With regards to claims 5, 11, and 12 Asahi also does not teach the claimed particle size of the ionized copolymer. However, Mitsui teaches the particle size should be between 1-20,000nm in order to reduce cracking of the resulting film (0013). Thus, it would have been obvious to the skilled artisan to utilize ionized particles with a particle size between 1-20,000nm in order to control the crack resistance of the resulting film.

With regards to claim 22, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply said coating to both sides of the paper substrate in order to obtain anti-blocking properties on both surfaces.

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8. Claims 3-6, 9, 11-14, 16-20 and 22 are rejected under 35 U.S.C. 103(a) as unpatentable over JP51-04330A (herein referred to as Sumitomo) in view of JP 59174850A (Ricoh) and JP 10298295A (Mitsui).

Sumitomo teaches an ethylenic copolymer composed of ethylene and alpha-beta ethylenically unsaturated carboxylic acid wherein 20-100mol% of the acid is neutralized with amine and/or ammonium ions. The copolymer comprise 70-95wt% ethylene, and 5-30mol% of unsaturated carboxylic acid (abstract). Said neutralized acids are understood to read on the claimed constituent c of claim 3. Said coating exhibits blocking resistance (herein understood to be synonymous with "slipping properties"). The neutralization is understood to read on the claimed limitations of claim 4.

Sumitomo does not teach the claimed coating weight. However, Ricoh teaches an anti-blocking metal ionized ethylene acrylic acid copolymer (abstract). Said coating is applied to a paper substrate in amounts of 0.2-0.7g/sq. m. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the antiblocking ethylene unsaturated carboxylic acid composition taught in Sumitomo to the paper taught therein in amounts of 0.2-0.7g/sq. m. The motivation for doing so would have been that Ricoh teaches such amounts are sufficient to achieve anti-blocking affects with ethylene unsaturated carboxylic acid coatings.

Sumitomo also does not teach the ionized ethylene acrylic acid polymer should have the claimed molecular weight. However, Mitsui teaches an ionized ethylene acrylic acid copolymer and teaches the melt flow (herein understood to be indicative of molecular weight) should be optimized in order to optimize the processability of the

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composition (0010). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the molecular weight of the polymer taught in Sumitomo in order to optimize its water processability.

With regards to claim 14, Sumitomo does not teach the desired pH of the composition. However, Mitsui teaches the pH should be greater than 7 to control the gelling of the composition (0012). Thus, it would have been obvious to the skilled artisan to make the polymer taught in Sumitomo in a solution having a pH greater than 7 in order to control the gelling of the composition.

With regards to claims 5, 11, and 12, Sumitomo also does not teach the claimed particle size of the ionized copolymer. However, Mitsui teaches the particle size should be between 1-20,000nm in order to reduce cracking of the resulting film (0013). Thus, it would have been obvious to the skilled artisan to utilize ionized particles with a particle size between 1-20,000nm in order to control the crack resistance of the resulting film.

With regards to claim 22, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply said coating to both sides of the paper substrate in order to obtain anti-blocking properties on both surfaces.

9. Claims 3-6, 9, 11-14, 16-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 55-040835(herein referred to as Asahi) in view of JP 59174850A (Ricoh) and JP-10298295A (Mitsui).

Asahi teaches paper coated with a lubricant comprising an ethylenic copolymer composed of ethylene and alpha-beta ethylenically unsaturated carboxylic acid wherein at least 10% of the acid is neutralized with a metal and/or ammonium ions. The

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copolymer comprise 90-97wt% ethylene, and 3-10mol% of unsaturated carboxylic acid and esters thereof (abstract). Said esters are understood to read on the claimed constituent c of claim 3. Said coating exhibits blocking resistance (herein understood to be synonymous with "slipping properties"). The "at least 10%" neutralization is understood to read on the claimed limitations of claim 4.

Asahi does not teach the claimed coating weight. However, Ricoh teaches an anti-blocking metal ionized ethylene acrylic acid copolymer (abstract). Said coating is applied to a paper substrate in amounts of 0.2-0.7g/sq. m. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the antiblocking ethylene unsaturated carboxylic acid composition taught in Asahi to the paper taught therein in amounts of 0.2-0.7g/sq. m. The motivation for doing so would have been that Ricoh teaches such amounts are sufficient to achieve anti-blocking affects with ethylene unsaturated carboxylic acid coatings.

Asahi also does not teach the ionized ethylene acrylic acid polymer should have the claimed molecular weight. However, Mitsui teaches an ionized ethylene acrylic acid copolymer and teaches the melt flow (herein understood to be indicative of molecular weight) should be optimized in order to optimize the processability of the composition (0010). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the molecular weight of the polymer taught in Asahi in order to optimize its water processability.

With regards to claim 14, Asahi does not teach the desired pH of the composition. However, Mitsui teaches the pH should be greater than 7 to control the

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gelling of the composition (0012). Thus, it would have been obvious to the skilled artisan to make the polymer taught in Asahi in a solution having a pH greater than 7 in order to control the gelling of the composition.

With regards to claims 5, 11, and 12 Asahi also does not teach the claimed particle size of the ionized copolymer. However, Mitsui teaches the particle size should be between 1-20,000nm in order to reduce cracking of the resulting film (0013). Thus, it would have been obvious to the skilled artisan to utilize ionized particles with a particle size between 1-20,000nm in order to control the crack resistance of the resulting film.

With regards to claim 22, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply said coating to both sides of the paper substrate in order to obtain anti-blocking properties on both surfaces.

10. Claims 3-6, 9, 11-14, 16-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10298295A (Mitsui) in view of JP 59174850A (Ricoh).

Mitsui teaches an ionize ethylene methacrylic acid copolymer composition having a pH of greater than 7 (0012), a particle size of 1nm-200um (0012), and an acrylic acid content of 10-30% (0070), a neutralization of 90% see examples, a melt index of 50-1,000g/10min (herein understood to be sufficiently specific to anticipate the claimed molecular weight range of claim 6), and an optional content of 1-20wt% of other monomers such as acrylates (0008). The resulting coating is applied to a paper substrate, is transparent, and does not block (0019).

Mitsui does not teach the claimed coating weight. However, Ricoh teaches an anti-blocking metal ionized ethylene acrylic acid copolymer (abstract). Said coating is

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applied to a paper substrate in amounts of 0.2-0.7g/sq. m. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the anti-blocking ethylene unsaturated carboxylic acid composition taught in Mitsui to the paper taught therein in amounts of 0.2-0.7g/sq. m. The motivation for doing so would have been that Ricoh teaches such amounts are sufficient to achieve anti-blocking effects with ethylene unsaturated carboxylic acid coatings.

With regards to claim 22, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply said coating to both sides of the paper substrate in order to obtain anti-blocking properties on both surfaces.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of the above rejections and further in view of Toyoda (JP 2003-183453A).

The above rejections are relied upon as above and all teach the use of ionized ethylene acrylic acid copolymers. None of the references teach that the copolymers may further comprise vinyl sulfonates. However, Toyoda teaches sulfonated part of such ionized copolymers (herein understood to be synonymous with polymerizing with vinyl sulfonate) improves the water resistance and weatherability of the polymer (0013). Thus, it would have been obvious to sulfonate the polymers taught above in order to improve their water resistance and weatherability.

Response to Arguments

Applicant's arguments filed January 3, 2007 have been fully considered but are moot in view of a new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin R. Kruer
Patent Examiner-Art Unit 1773